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observations which appear to him to confirm what he had advanced on a former occasion touching the dispersive powers of the eye.

*On the Composition of Emery.* By Smithson Tennant, Esq. F.R.S.  
Read July 1, 1802. [*Phil. Trans.* 1802, p. 398.]

The ultimate results of the experiments made on this substance, which it seems had never before been properly analysed, are—that 25 grains contain  $12\frac{1}{2}$  grains of argillaceous earth, 2 of silice, and 8 of iron; that 1 grain was not dissolved, and that the remainder, being  $1\frac{1}{2}$  grain, was lost in the process. Another process gave the same components, but in somewhat different proportions. These ingredients being very similar to those found by Mr. Klaproth in Diamond spar, it is thought that emery is essentially a substance of the same nature, with perhaps a somewhat greater proportion of iron.

*Quelques Remarques sur la Chaleur, et sur l'Action des Corps qui l'interceptent.* Par P. Prevost, Professeur de Philosophie à Genève, &c.  
Communicated by Thomas Young, M.D. F.R.S. Read July 1, 1802.  
[*Phil. Trans.* 1802, p. 403.]

The remarks here brought forward relate chiefly to Dr. Herschel's experiments on the solar and terrestrial rays that occasion heat, published in the Philosophical Transactions for the year 1800, and are meant to rectify some anomalies which appear in their results. The paper consists of two parts: the first being the observations on Dr. Herschel's experiments, and some new ones, with inferences deduced from them; and the second the exposition of a theory, which the author thinks may reconcile all contradictions.

In the first part he sets out with briefly stating the manner in which Dr. Herschel conducted the experiments he made, in order to estimate, by the indications of different thermometers, the quantity of heat transmitted through various substances, compared with the heat afforded by direct rays from different luminous bodies, or more properly sources of heat. Here the author soon starts a difficulty concerning the mode of estimating the intercepting power of the substances used in the experiments. As these experiments consist of a series of observations made progressively at intervals of one minute between each other, it follows that the ratio Dr. Herschel adopted between the heat produced by direct rays, and those transmitted through coloured media, is not, as he imagined, a constant proportion, he having uniformly deduced his inferences from the differences between the initial and the final degrees of heat; whereas, had he attended to the intermediate observations, he would have found that each of them would have afforded a different ratio.

Having maturely considered this subject, the author, adverting to this circumstance of the various proportions of heat progressively yielded in these experiments, observes, that it can hardly be conceived why the faculty of transmitting and intercepting heat should